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ABSTRACT

A college of veterinary medicine in a large state university compared its male and female students on the influences on their career choice, including attitudes of family and school personnel, and students' academic experiences, gender-role expectations and conflicts, attitudes regarding professional dedication and competence, and their need for support services. Women had received more discouragement than men from male and female high school counselors and teachers, and from male college counselors. Half the women felt discrimination at the college. Women were more nontraditional than men in their attitudes on both personal and professional gender-roles. Women were also more nontradtional than men believed them to be in their expectations for the effect of childrearing on the time they devote to work. Students felt that all support services should increase, but that women need more career counseling than men. Even though they have made a career choice and are enrolled in the professional school, women lack an understanding of their opportunities and roles in the field. The authors recommend a variety of ways for traditionally male professional schools to increase the exposure of women to the profession and to their opportunities in it. (Author)

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Career Influences, Educational Experiences, and Professional Attitudes of Women in Veterinary Medicine

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Running Head: Career Influences

Career Influences, Educational Experiences, and Professional Attitudes of Women in Veterinary Medicine

Sex role ideology continues to affect the career development of women, despite the few sex differences which can be documented consistently (Maccoby & Jacklin, 1974; Stoll, 1974). After examining career aspirations of women, Rossi (1965b), for example, concludes that women who enter the professional fields dominated by men have had to have "extraordinary motivation, thick skins, exceptional ability, and some unusual pattern of socialization in order to reach their occupational destinations" (p. 625).

Reports of studies on women in traditionally male fields describe such negative influences on women's career choice as stereotypic images of male and female roles; parental and educator discouragement of young women when they attempt to expand those images, women's self-images which are not congruent with actual performance, and the inflexibility of educational systems and professional structures (Adler, 1976; Davis, Note 1; Epstein, 1971; Houpt & Calhoun, 1977; Kosa, 1971; Kosa & Coker, 1965; Kashket, Robbins, Leive, & Huang, 1974; Kundsin, 1974; Lopate, 1968; Mattfeld & VanAken, 1965; Rossi, 1965a, 1965b; Ruina, 1973; Trigg & Perlman, 1976). Other authors have stressed the importance of role models for women, and their need for a peer support system and for effective support services (Almquist & Angrist, 1971; Astin & Panos, 1969; Davis, Note 1; Epstein, 1970; Feldman, 1974; Giuliani & Centra, 1968; Graham, 1970; Hipple & Hill, 1973; Kashket, Robbins, Leive & Huang, 1974; Kundsin, 1974; Nadelson & Notman, 1972; Reis, 1974; Rossi

& Calderwood, 1973; Robin, 1969; Ruina, 1973; Standley & Soule, 1974; Tangri, 1972; Tidball, 1974; and Townsend & Hendel, Note 2; URSA, 1976). Many of the professions in which women face special problems are in scientific and technical fields.

As in other scientific and technical fields (Epstein, 1970; Rossi, 1965a, 1965b), the proportion of women in veterinary medicine has been very low. The proportion of women enrolled in the colleges of veterinary medicine nationwide has increased consistently, however, since 1965: six percent (N=294) of all veterinary medical students in 1965 were women (Parrish, 1974); this proportion rose to 26% (N=1607) of all students in 1976 (AAVMC, Note 3). In spite of this increase, relatively little attention has been paid to women in veterinary medicine. The present research was designed to investigate the factors important to men and women in selecting veterinary medicine as a career and to compare female and male students on experiences in college and on their expectations as professionals. The authors reviewed reports of women in nontraditional fields and studied male and female students in a college of veterinary medicine. They compared the influences on their career choice, including attitudes of family and school personnel, and students' academic experiences, gender-role expectations and conflicts, attitudes regarding professional dedication and competence and their need for support services.

Support for Career Choice

Standley and Soule (1974) and Davis (Note 1) provide evidence that women in nontraditional fields make career decisions at an early age.

In fact, Townsend and Hendel's data (Note 2) on students who also served as the population for the present study indicated that women tended to make the decision to be veterinarians earlier than men. Parents have been found to be a major influence and source of support in girls' career decision-making (Almquist & Angrist, 1971; Giuliani & Centra, 1968; Ruina, 1973). Almquist and Angrist's (1971) thesis was that most students perceive both parents as supporting and encouraging their plans. Although Trigg and Perlman (1976) found mothers to be most influential in women's choice of a nontraditional career, Townsend and Hendel (Note 2), URSA (1976), and Standley and Soule (1974) found fathers to be more influential than mothers.

In spite of early career decisions and support from one or the other parent or both parents, women often must overcome significant discouragement from entering a nontraditional career. As examples, results of Nadelson and Notman's 1972 study in medicine and Houpt and Calhoun's 1977 study in veterinary medicine showed that high school and college advisors tend to reinforce the idea that such fields are unsuitable or unrealistic for women.

Professional School Experiences

Even when women enroll in graduate and professional programs in nontraditional fields, school personnel have been nonsupportive. Faculty attitudes toward students, and the availability of faculty seem to be important determinants of student satisfaction and performance (Holmstrom & Holmstrom, 1974; Houpt & Calhoun, 1977). And yet women have often been excluded from the collegial apprentice relationships to faculty, and

sometimes there is blatant antagonism, either from faculty or students. Because of this response and because other authors report paternalistic enthusiasm of faculty for female students (Hardin & Dede, 1973), the authors of this study wondered whether female veterinary medical students might report receiving either less help from faculty than they wanted or perhaps more help than they wanted.

Discrimination, or sex-based inequality, has been cited by many authors in discussions of admission to schools, counseling services, academic training, job opportunities, acceptance in a profession, and professional recognition and awards (Adler, 1976; Davis, Note 1; Epstein, 1970; Feldman, 1974, p. 175; Graham, 1970; Kashket et al., 1974; Standley & Soule, 1974; Theodore, 1971, pp. 27-32; and White, 1970). Davis (Note 1), for example, stated that 80% of her sample of women in an institute of technology in a large state university mentioned "barriers or difficult situations they had to cope with as women in a predominantly male college" (p. 69). A study of male and female microbiologists (Kashket et al., 1974) indicated that men are urged to continue their studies, but that women are more likely to be encouraged to stop at lower levels and receive discouragement if they pursue an advanced degree.

According to Nadelson and Notman (1972) and Davis (1975), the need for counseling, peer contacts, and role models is especially important in schools where there are few female students, faculty members and administrators. Authors of the Carnegie Report (Feldman, 1974) recommended that colleges strengthen career counseling for women, "by weakening the stereotyped conception of what each sex is suited for" (p. 138).

In assessing the need for both personal and career counseling for women in a college of veterinary medicine, the authors of the present study wished to determine whether those women experience discrimination which presents barriers to their achievement in the field.

Professional Expectations

Rossi and Calderwood (1973) claimed that, not only is there no positive support built into the educational system, but also that the lack of women on faculties might be a significant source of stress for female students. Because of the relatively few women in veterinary medicine, there are neither female faculty nor the female practitioners in enough numbers to help young women perceive the career as being open to them, achieve a better understanding of the commitment they are making, learn how to combine a family and career successfully, and perform according to the requirements of a work role. The authors of this study considered women's lack of role models and those other, more obvious, sources of discouragement in asking about gender-role expectations. Giuliani and Centra (1968) found that women in veterinary medicine who were dissatisfied with their work were not disenchanted with the profession itself, but believed the greatest problem was in reconciling the conflicts between professional and "feminine" roles.

Besides those achievement-related conflicts such as the real problems of juggling family responsibilities and professional activities, authors of previous studies (Adler, 1976; Graham, 1970; and Lopate, 1968) have reported other sources of discouragement to professional women, including less than enthusiastic support from husbands and the lack of geographic

mobility, as well as the fact that working women often carry more responsibility for children than their working husbands.

Trigg and Perlman (1976) found that women in nontraditional careers perceive the need to have a family as being compatible with a nontraditional career. Even so, the authors of this report believed that women may not be sure how they are compatible, feeling greater pressures than men when children are born. A recent UNESCO study, for example, revealed that the average working mother had 2.8 hours of free time on a typical weekday, as compared with 4.1 hours for the working man (Graham, 1970). The support of spouse and family for their professional goals and the time pressures they feel from their families, even while students, seem to be important indicators of men's and women's relative freedom to define their own personal and professional roles. Contrary to other evidence, a recent study of women microbiologists (Kashket et al., 1974) showed that more women doctorates (82%) than men doctorates (70%) felt that their spouses supported them enthusiastically.

In addition to looking at that support and those time pressures, the authors hoped to compare women and men in their attitudes about gender roles, by looking at traditional measures of commitment to professional activity, such as the number of years the students expect to work in the profession and how their involvement would increase or decrease with the ages of children.

Giuliani and Centra's (1968) study of female veterinarians showed that the women were in practice 78% of the total number of years they might have practiced, compared with 98% for men, the difference apparently reflecting the larger percentage of women working part-time. In

any case, the professional survey of the Women's Veterinary Medical Association, on the other hand, showed that 95% of the female veterinarians in the working force were at work ("Women Veterinarians", 1974). (No comparison figures were given for men.) The survey also showed that only 5% of the 940 female veterinarians (13% of the respondents with children) were not working because of pregnancy or small children (based on Smith, 1974; Smith, Note 6).

Despite evidence of productivity and commitment, professional women are denied some of the informal signs of belonging and recognition (McGill and Hendel, Note 4; Rozsnafsky and Hendel, Note 5; White, 1970). A large percentage of the female veterinary medical students in the Houpt and Calhoun study (1977), for example, believe the profession to be insincere in welcoming them. The authors, therefore, believed it was important to examine men's and women's attitudes about women's competence and dedication as veterinarians, to compare their expectations for opportunities for employment in the profession, and to determine whether they feel women face special problems in this male-dominated field. The authors wished to determine whether women needed more vocational counseling and personal counseling in order to ease their transition into a predominantly male environment.

Method

Subjects and Data Collection

The college in which the study was conducted is one of twenty-two colleges of veterinary medicine in the United States. Although a minimum of two years of preprofessional coursework is required for admission, most students enter with at least three years of college work. Competition

for admission is extremely keen, as evidenced by the fact that only 16% of the applicants were admitted in Fall 1976. The four-year professional program is a "core-elective" curriculum, in which students complete basic science courses and then choose one of three options -- food animal, companion animal, or mixed food and companion animal medicine.

The questionnaires were administered in a group session with each of the four classes of students (freshman, sophomore, junior, and senior). Students who did not attend their session were sent a questionnaire and cover letter asking them to complete the questionnaire.

Questionnaire data were obtained from 239 (85.0%) of the 281 students enrolled in the college. Completed questionnaires were obtained from 72 of the 73 freshmen (98.6%), 62 of the 70 sophomores (88.6%), 67 of the 74 juniors (90.5%), and 38 of the 64 seniors (59.4%).[1] Approximately one-fourth (N=54 or 22.7%) of the respondents were women.

Instrument

The development of the questionnaire was based on the authors' experiences with students and on unspecified hypotheses from previously reviewed literature. When the questionnaire was still in in draft form, copies were given to several male and female students in the college to obtain their suggestions and comments. Their recommendations were incorporated into the final version of the questionnaire.[2]

The questionnaire contained sections on students' backgrounds; college experiences with counseling and advising services, sex discrimination, and instructors; and expectations for combining a career and family, gender-role expectations, and special problems of male and female students.

Data Analysis

Students' responses to appropriate questions were key-punched and descriptive statistics (frequency distributions, percentages, means, and standard deviations) were calculated for each item for the total group of students. Other analyses, such as chi-square and one-way analysis of variance, were used to compare subgroups of students' responses (e.g., men vs. women) to all of the forced-choice questions. The questionnaire also contained several open-ended questions; students' responses to these questions were typed on note-cards and were then categorized according to content.

Results

Data concerning career influences for men and women students in veterinary medicine are discussed in terms of three types of influences: 1) students' perceptions of past influences on their career choice; 2) students' descriptions of current experiences in the college, including those resulting from women entering a traditionally male-oriented educational environment, which they perceived to be having an impact on their career choice; and 3) students' expectations concerning various aspects of the practice of veterinary medicine.[3]

Past Influence on Career Choice

Women and men students indicated how other individuals in their lives had influenced their plans to become veterinarians. The "sources of influence" used in the present study were: father, mother, other relatives, spouse, friends, high school teachers, high school counselors, college teachers, college counselors and veterinarians. Students responded

"encouraged," "indifferent," "discouraged," or "does not apply" to each of 16 items. The three individuals most frequently checked as sources of encouragement for both women and men students were mothers, fathers, and male veterinarians. In contrast, male high school counselors, female high school counselors, and male college counselors were the three most frequently indicated as sources of discouragement for women and men students combined; the percentages of students who felt discouraged by these individuals were, however, relatively small (7.7%, 6.1%, and 5.2%, respectively).

Male and female students responded differently concerning the perceived influence from several of the individuals. Chi-square comparisons (3 df) between female and male students indicated statistically significant differences ($p \leq .05$) for 9 of the 16 items. These results, contained in Table 1, may be summarized as follows: (1) women were more likely than men to think their mothers had either encouraged or discouraged them to become veterinarians, whereas men were more likely than women to think their mothers had been indifferent; (2) female students were much more likely to have perceived being encouraged by female friends than male students were; (3) women were much more likely than men to say that both male and female high school counselors had discouraged them from becoming veterinarians and, to a lesser extent, the same was also true for both male and female high school teachers and for male college counselors; and (4) more women than men said they felt encouraged by a female veterinarian they knew.

Insert Table 1 about here

Current Career-Related Experiences

The next series of questions focused on students' percentions concerning the influence which veterinary medical faculty were having on their career plans. Approximately one-fifth (18.9%) of the students indicated that faculty members had been influential; students were evenly divided, however, as to the positive or negative quality of that influence. As one might predict, as year-in-school increased, the percentage of students who reported faculty related influences on their careers increased (9%, 13%, 33%, and 44%, respectively). The absence of sex differences for this particular question suggests that, in terms of frequency of faculty influence on students' careers, female and male students received similar treatment.

A related question concerned the amount of advising help (e.g., selecting courses, discussing career possibilities, etc.) students wanted from faculty. Although a small percentage of students (2.6%) said they "wanted less help," the majority of students (51.9%) said that they were getting the amount of help that they wanted. Large numbers of students, however, wanted either "more help" (34.9%) or "much more help" (10.6%). Male and female students responded similarly to this item.

Other questions supported the finding that veterinary medical students want increased student services. Both female and male students said that academic counseling, vocational counseling, and personal counseling services should be increased for both female and male students. But an interesting finding emerged: women more frequently than men indicated that vocational counseling services should be increased for females. This finding suggests that women in veterinary medicine feel a need for

increased vocational counseling, possibly to help prepare them to enter a male-dominated profession such as veterinary medicine.

A question which arises when female students enter a male-oriented environment is whether sex discrimination occurs. A series of questions was written to obtain students' perceptions regarding possible sex discrimination. Although 65.7% of the students felt that sex discrimination did not occur, another 33.9% felt that sex discrimination did occur. And a significantly larger percentage of the women than men (50.0% vs. 29.8%) felt there was discrimination. Several women who felt discrimination occurred in the college commented about admissions policies (e.g., fewer women admitted), but the majority of those who felt discrimination occurred said that some instructors and male students believed "women were incompetent and unable to handle veterinary medicine as a profession." Men, on the other hand, felt that admissions policies were discriminatory (i.e., too few women or that admission standards are lowered for women applicants) and that "women are often given special treatment by male instructors." The admissions policy of the college has been set up to avoid discrimination in admissions and the finding that large numbers of students believed that discrimination occurred suggests the need for communicating these procedures to students so that the "myths of discrimination" will gradually disappear.

Students also responded to eight attitude items, listed in Table 2, which focused on various possible areas for discrimination in the college. Although the mean responses to the eight items suggests that students in general do not think sex discrimination occurs, sex differences were found for four items (2, 5, 6 and 8). In each case, women responded in the direction which indicated that they perceived greater discrimination than men.

Insert Table 2 about here

Expectations Concerning Career Experiences

One question which has emerged when women enter professional fields such as veterinary medicine concerns the length of time they will actually spend in the profession. In terms of students' expectations concerning how long they would work in veterinary medicine, there were no differences between female and male students. A majority of students (65.3%) expected to spend at least 30 years in the profession.

A related series of questions concerned problems which female and male students had encountered, or expected to encounter, in combining a career and a family. Although less than half (46.3%) of the students in the present study were married, almost all of the married students (98.1%) said their spouses were either"mildly supportive" (17.4%) or "strongly supportive" (80.7%) of their plans to enter veterinary medicine. Male and female students responded similarly concerning the support they felt from their spouses.

Another question focused on the issue of the time which married veterinary students are able to spend with their spouses and children. Responses to the item were varied in terms of how pressured students felt by their spouse and children. Although twenty students (18.3%) responded "not pressured," the majority of the 110 married students (N=58, or 53.2%) felt "somewhat" pressured about time spent with family. Another 18.3% said they felt "very pressured" and 10.1% felt "extremely pressured." Men and women responded similarly to this question.

Two other questions examined students' expectations concerning how having children would affect the amount of time they would devote to veterinary medicine and how students thought their other-sex classmates would respond. That is, women responded to the item and then predicted men's responses and vice versa. Students responded to each of five children's age groups on a scale from would "greatly decrease professional time" to would "greatly increase professional time."

Table 3 contains the means and standard deviations for the total group of students and separately for male and female subgroups, showing both predictions for self and for other-sex classmates. The most frequent response regarding self-perceptions for the total group of students was "slightly decrease professional time" for children up to age 2, ages 2-4, and age 4 to school-age (52.2%, 57.0%, and 55.8%, respectively) and "no change in amount of time" for elementary school-age and teenagers (44.2% and 47.7%, respectively). For the response category "greatly decrease professional time," the percentages decreased from a high of 20.4% for children up to age 2 to 9.1% for teenage children. Approximately 1.2% of the students indicated that having children would slightly or greatly increase the amount of time they would devote to veterinary medicine.

Insert Table 3 about here

Women and men responded differently for three of the five age groups. For children up to age 2, women indicated they expected a greater decrease in professional time than did men ($\underline{M}$ = 1.74 for women versus $\underline{M}$ = 2.18 for men). Women and men responded similarly in their predictions for children

aged 2-4 and aged 4 to school-age. For the last two age groups (elementary and teenage), men expected a greater decrease than did women ($\underline{M}$ = 2.27 versus $\underline{M}$ = 2.74, and $\underline{M}$ = 2.33 versus $\underline{M}$ = 2.93, respectively).

The second part of Table 3 contains similar data from the perspective of other-sex classmates. There were significant differences between male and female students for all five age groups, in contrast to the three significant differences for the previously discussed self-predictions. Moreover, for each of the age groups, the other-sex predictions were more extreme than were the students' expectations for themselves. For example, for children up to age 2, the self-perceptions for women had a mean of $\underline{M}$ = 1.74 in contrast to the men's prediction for females of $\underline{M}$ = 1.47 and the self-perceptions for men had a mean of $\underline{M}$ = 2.18 in contrast to the women's prediction for males of $\underline{M}$ = 2.67. Both men and women seemed to have different perceptions of the expectations of their other-sex classmates concerning combining professional and family activities. There were more and greater sex differences in responses attributed to other-sex classmates than there were in the actual student responses themselves.

Insert Table 4 about here

Insert Table 5 about here

A series of seven attitude items concerning gender-role expectation in students' personal lives were written to determine possible sex-differences.

Table 4 contains results for the total group of students and Table 5, the comparisons between female and male students. Significant ($p \leq .05$) differences between mean responses for women and men students were obtained for all seven of the items. Responses showed that women students were more liberal and non-traditional than the men students.

A parallel series of eight items were written concerning gender role expectations as professionals. Table 6 contains the results for the total groups of students and Table 7, for those items which yielded significant sex differences. Significant ($p \leq .05$) differences between women and men students were found for six of the items. Women more often than men felt that opportunities in teaching and research were more restricted for women than men but men more often than women thought that opportunities in practice were more restricted for women than for men. Male students more frequently than female students felt that male veterinarians should earn more than women, that male veterinarians were more dedicated to their profession, and that a man was more likely than a woman to succeed as a veterinarian.

Insert Table 6 about here

Insert Table 7 about here

Responses to open-ended questions provided further information concerning this question. Students were asked whether female veterinarians face special problems in the profession; 83.1% of the students thought

women do face special problems. Specific problems mentioned by male students could be placed into four categories: Non-acceptance by farmers, inherent traits of women (e.g., less physical strength), non-acceptance by male veterinarians, and general societal barriers. Women responded similarly, with the exception that they did not mention problems concerning inherent characteristics of women.

Discussion

Most men and women studied felt both their mothers and fathers to be encouraging about their plans for a career in veterinary medicine. Mothers, however, were less indifferent toward daughters' than sons' career plans, perhaps reflecting mothers' greater involvement in daughters' upbringing.

In spite of parental support, women received more discouragement than did men from male and female high school teachers and counselors, and from male college counselors. This supports other studies in medicine (Nadelson & Notman, 1972) and veterinary medicine (Houpt & Calhoun, 1977) which showed the discouragement women receive from academic advisors. The fact that discouragement was received by women veterinary medical students from male college counselors but not from college teachers may reflect the increased specialization of college faculty, with counselors carrying more responsibility than teachers for discussing career choices. Fewer women in the study felt discouraged by female college counselors and teachers than by male and female high school personnel and male college counselors, perhaps partly reflecting the smaller percentage of female staff in colleges, in addition to possible sex-biased counseling by high school personnel and male college counselors.

The authors concur with Hipple and Hill's (1973) and Davis' (Note 1), and URSA's (1976) recommendations, which include working with counselors to inform high school and college students and their parents about educational and career opportunities for women in nontraditional fields. Veterinary medical students and advisors in the professional school should continue to visit schools, participate in career workshops, and distribute data on women in the profession, and publish it in periodicals for counselors.

Those professionals planning career workshops for high school and college counselors and for students and their parents should be encouraged to include discussions with female veterinarians and perhaps staff of the college. Diminishing the sex-typing of occupations by counselors, teachers and parents would improve vocational guidance, which could then concentrate on considerations of actual aptitude, values, attitudes, and work behaviors, with benefits both to society and to the individuals. Improved vocational counseling should improve academic advising, since more women would need to continue studies in science and mathematics as preparation for preveterinary medical or other preprofessional or science curricula.

A small percentage of students indicated that faculty in the professional school had influenced their career plans; results were similar for both female and male students. As would be expected, however, more influence was felt by students in upper classes. Of those students in all classes who had discussed their career plans with faculty members, nearly half felt that faculty had approved those plans. The authors had hypothesized that female students might receive more discouragement from faculty about entering a practice which included food-producing animals. Although equal percentages of female and male students had felt their career plans

Several items on the questionnaire were designed to determine whether female veterinary medical students experience any discrimination in a male-oriented environment. The authors were alert to indications that administrative action might be necessary to reduce any felt discrimination among either male or female students. They also wished to determine whether women felt they needed more personal counseling or other support services in order to ease their transition into a predominantly male environment. A greater percentage of women than men (50% and 30%, respectively) stated that sex discrimination occurs in the college.

Many students who believe sex discrimination occurs cited admissions policies which favor or discriminate against women, even though the questionnaire contained no items related to admissions. Because of the inaccuracy of the students' perceptions, however, the authors recommended that the college distribute to faculty and to the entering classes, more complete data on those classes, including comparable data on those applicants not selected and proportions of men and women who applied and who were admitted. If students in the college had a clearer understanding of the admissions process, they may be of more assistance advising prospective students. Otherwise, myths about discriminatory admissions policies are likely to persist. In addition, the authors support efforts of college faculty and staff to describe the admissions process to area veterinary medical practitioners, whose influence on career choice is important to students considering veterinary medicine as a career.

Most women who said discrimination occurs cited negative attitudes of some instructors and male students. For example, although in general students of both sexes feel women and men are given equal responsibility

in the clinics, women are more likely than men to disagree and to feel they are given less responsibility. College personnel should support and advise women who wish to meet in informal seminars to discuss women's role in veterinary medicine and problems in the college. Informal advising and support should facilitate communication and problem-solving and increase women's sense of belonging.

Men and women reported no difference in the amount of support they receive for their career goals from their spouses. These results conflict with the results of Kashket et al. (1974), which showed that female doctorates received greater support than male doctorates from their spouses.

Neither were female-male differences evident in students' reports of feeling pressured about the time spent with family; most students reported feeling "somewhat" to "extremely" pressured. At this point, however, many of the students are not married and, of those who are married, relatively few have children. Male-female differences are more likely to emerge after the students marry and/or have children; the women may feel even greater time pressures than men when children are born because working women often carry greater responsibility for children than their working husbands (Graham, 1970).

Female veterinary medical students appear to be more nontraditional than men believe them to be, as seen in responses to the items regarding expectations for self and predictions for opposite-sex classmates concerning non-having children would influence the time spent in professional activities. For all five categories of children's ages, men were more likely to attribute greater reductions in professional activity to women than women expected for themselves. (To a lesser extent, women predicted that men would decrease professional activity during childraising less

to be approved or disapproved, incomplete data prevented the authors from drawing conclusions about career fields students had chosen or whether those plans were, in fact, suitable for the students.

There were no sex differences in response to the items on the amount of advising help students want, so it was not apparent that women receive less help then they want because of faculty antagonism or unavailability. Nor was it apparent that women receive more help than they want because of a patronizing attitude of some faculty toward female students. Nearly half, however, of all students want more help than they are receiving. It is recommended, therefore, that class advisors and other faculty who advise students examine and clarify for students the amount of time they make available to students, the kinds of help they can provide, and the referrals they are prepared to make to counseling specialists.

In general, students felt that services for all students should slightly increase. These include vocational, personal, and academic counseling. A greater percentage of women than men, however, desire an increase in vocational counseling for women. Women demonstrated the need for increased vocational counseling in their responses to other items on the questionnaire, as well. For example, the majority of students felt that women face special problems as veterinarians. Women and men responded similarly in listing the problems and their solutions, although men did list a "problem" women did not -- that of inherent deficiencies, such as lack of strength and physical size -- which they felt would hinder a women's performance as a veterinarian. It is not surprising, then, that men were more likely than women to state that opportunities in practice are limited for women. Women in the college, on the other hand, were more likely than men to state that opportunities for women are limited in teaching and research.

than men expected for themselves.) The present study, although it focused on attitudes rather than behavior (subjects were students, not professionals), supports previous studies (Lopate, 1968; Rossi, 1965b), which have indicated that men are more conservative than women in their expressed attitudes regarding childbearing and the completion of advanced training and working (although women's actual behavior tends to reflect an adaptation to the views of men). That female veterinary medical students are more nontraditional than male students in the college is seen in their attitudes on gender roles in their personal lives. More women than men, for example, indicated that they would be comfortable in a family where the woman was the chief bread-winner and the man the homemaker.

The students in the college are becoming a more heterogeneous group as more women enroll and as more freshmen enter with degrees in various areas. The implications of this heterogeneity are illustrated in the responses to the questions about gender-role expectations as professionals, since for six of the eight items, responses of women and men were significantly different. Until women are more integrated and stereotypes begin to disappear, each sex is likely to have misconceptions about the other's motivations and expectations.

The authors recommend that the college, and other institutions in which larger numbers of women are entering nontraditional fields, hire a counselor with experience in vocational guidance for women. Although this person would provide vocational, personal, and academic counseling for all students, he or she would need to keep informed about current research and surveys on women in the profession. With both men and women believing the career opportunities in the field to be limited for women, the need

for testing those perceptions and obtaining valid descriptions of professional opportunities for women becomes important. In helping students to determine their interests and abilities and in matching these with careers in veterinary medicine, the counselor must recognize and deal with personal and societal barriers to women's working in their area of choice.

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Footnotes

[1]Fewer seniors than others completed the questionnaires due, in part, to their not being in any one class together and to their complicated schedules.

[2]Copies of the questionnaire may be obtained from the Measurement Services Center, University of Minnesota, 9 Clarence Avenue Southeast, Minneapolis, Minnesota 55414.

[3]Complete data are reported in Follett, C.V., Hendel, D.D., and Klohs, W.L. Andberg. Men and women in the College of Veterinary Medicine: Their comments about student services. Measurement Services Center, University of Minnesota, September 2, 1975.

Table 1

Students' Perceptions Concerning Sources of Influence in Their Decision to Become Veterinarians, by Sex

	Encouraged						Indifferent						Discouraged						Does Not Apply					
	Female		Male		Total		Female		Male		Total		Female		Male		Total		Female		Male		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Mother**	41	75.9	123	67.2	164	69.2	6	11.1	45	24.6	51	21.5	6	11.1	4	2.2	10	4.2	1	1.9	11	6.0	12	5.1
Male Friend**	29	54.7	87	48.3	116	49.8	15	28.3	72	40.0	87	37.3	5	9.4	2	1.1	7	3.0	4	7.5	19	10.6	23	9.9
Female Friend**	33	61.1	73	4.12	106	45.9	16	29.6	75	42.4	91	39.4	2	3.7	1	.6	3	1.3	3	5.6	28	15.8	31	13.4
Male High School Teacher*	16	29.6	43	23.9	59	25.2	15	27.8	70	38.9	85	36.3	4	7.4	2	1.1	6	2.6	19	35.2	65	36.1	84	35.9
Female High School Teacher*	7	13.0	24	13.5	31	13.4	22	40.7	84	47.2	106	45.7	4	7.4	1	.6	5	2.2	21	38.9	69	38.8	90	38.8
Male High School Counselor**	9	16.7	42	23.2	51	21.7	14	25.9	67	37.0	81	34.5	10	18.5	8	4.4	18	7.7	21	38.9	64	35.4	85	36.2
Female High School Counselor**	7	13.2	15	8.4	22	9.5	11	20.8	66	37.1	77	33.3	10	18.9	4	2.2	14	6.1	25	47.2	93	52.2	118	51.1
Male College Counselor**	10	18.9	56	31.3	66	28.4	11	20.8	62	34.6	73	31.5	8	15.1	4	2.2	12	5.2	24	45.3	57	31.8	81	34.9
Female Veterinarian**	10	18.5	9	5.2	19	8.3	4	7.4	21	12.1	25	11.0	2	3.7	1	.6	3	1.3	38	70.4	143	82.2	181	79.4

*$p < .05$

**$p \leq .01$

Table 2

Students' Responses Concerning Sex Discrimination

Item	Category[a] Strongly Disagree N	%	Disagree N	%	Neutral N	%	Agree N	%	Strongly Agree N	%	M	SD
1. Laboratory dress requirements are less reasonable for women than for men.	51	21.5	98	41.4	82	34.6	4	1.7	2	.8	2.19	.82
2. Women in the veterinary medicine curriculum are not accepted by the men faculty.[b]	20	8.5	148	62.7	48	20.3	19	8.1	1	.4	2.29	.75
3. Women in the veterinary medicine curriculum are not accepted by other women on the campus.	27	11.4	112	47.5	91	38.6	6	2.5	--	--	2.32	.71
4. Women in the veterinary medicine curriculum are not accepted by the women faculty.	35	14.8	141	59.7	57	24.2	3	1.3	--	--	2.12	.66
5. Fewer women should be admitted to the College than are currently being admitted.[b]	51	21.4	79	33.2	43	18.1	43	18.1	22	9.2	2.61	1.26
6. Too many women are being admitted to the College.[b]	45	19.0	80	33.8	47	19.8	45	19.0	20	8.4	2.64	1.23
7. Women and men are given equal consideration and respect in most courses.	4	1.7	7	3.0	20	8.5	147	62.3	58	24.6	4.05	.78
8. Women and men are given equal responsibility in the clinics.[b]	2	.9	12	5.4	95	42.6	88	39.5	26	11.7	3.56	.80

[a]Responses were coded on a scale from "1" = "strongly disagree" to "5" = "strongly agree".

[b]Items on which sex differences were found.

Table 3

Perceived effects of having children

on professional time, by sex[a,b]

Age of children	Expectations of Self						Predictions of Other Sex					
	Total		Female		Male		Total		Female		Male	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Up to Age 2	2.08	.72	1.74	.65	2.18	.70	1.75	.99	2.67	.89	1.47	.84
Ages 2 - 4	2.10	.69	2.00	.68	2.13	.69	1.88	.99	2.76	.85	1.61	.87
Age 4 to School Age	2.18	.70	2.30	.74	2.14	.69	1.99	.95	2.80	.81	1.74	.85
Elementary School	2.38	.73	2.74	.65	2.27	.72	2.29	.83	2.94	.53	2.10	.81
Teenage	2.47	.76	2.93	.67	2.33	.73	2.49	.83	3.00	.58	2.33	.83

[a]Comparisons between male and female students which were significant at $p \leq .01$ are underlined.

[b]Responses were coded from "1" = "greatly decrease professional time" to "5" = "greatly increase professional time".

Table 4

Students' Attitudes Concerning Gender Role Expectations in Their Personal Life

Item	Category[a] Strongly Disagree N	%	Disagree N	%	Neutral N	%	Agree N	%	Strongly Agree N	%	M	SD
1. Too much competition makes a woman unfeminine.	56	23.5	110	46.2	33	13.9	30	12.6	9	3.8	2.27	1.07
2. A woman who does not have children is not fulfilling her role as a woman.	97	40.9	98	41.4	28	11.8	10	4.2	4	1.7	1.84	.91
3. If a woman has children, her career should be interrupted while raising them.	21	8.9	61	25.8	44	18.6	87	36.9	23	9.7	3.13	1.17
4. A husband's career should receive primary consideration over his wife's career.	39	16.5	94	39.7	47	19.8	40	16.9	17	7.2	2.59	1.16
5. I prefer to follow traditional sex roles.	39	16.6	72	30.6	60	25.5	56	23.8	8	3.4	2.67	1.11
6. I think I would feel comfortable in a family where the woman is the chief breadwinner, and the man is the homemaker.	53	22.5	106	44.9	36	15.3	34	14.4	7	3.0	2.31	1.06
7. Female students in the College should look more feminine than they currently do.	44	18.8	82	35.0	56	23.9	31	13.2	21	9.0	2.59	1.20

[a]Responses were coded on a scale from "1" = "strongly disagree" to "5" = "strongly agree".

Table 5

Gender Role Expectations in Personal Lives, by Sex

Item[a]	Male			Female		
	N	M	SD	N	M	SD
1. Too much competition makes a woman unfeminine.	183	2.44	1.06	54	1.63	.78
2. A woman who does not have children is not fulfilling her role as a woman.	182	1.99	.95	54	1.37	.52
3. If a woman has children, her career should be interrupted while raising them.	181	3.40	1.08	54	2.20	.98
4. A husband's career should receive primary consideration over his wife's career.	182	2.80	1.16	54	1.85	.83
5. I prefer to follow traditional sex roles.	181	2.91	1.06	53	1.85	.91
6. I think I would feel comfortable in a family where the woman is the chief breadwinner, and the man is the homemaker.	181	2.15	1.03	54	2.81	1.03
7. Female students in the College should look more feminine than they currently do.	179	2.76	1.20	54	1.96	.91

[a]Responses were coded on a scale from "1" = "strongly disagree" to "5" = "strongly agree".

Table 6

Gender Role Expectations as Professionals

Item	Category[a] Strongly Disagree N	%	Disagree N	%	Neutral N	%	Agree N	%	Strongly Agree N	%	M	SD
1. Opportunities in practice are more restricted for women than for men.	4	1.7	48	20.3	31	13.1	134	56.5	20	8.4	3.50	.96
2. Male veterinarians are more dedicated to their professions than female veterinarians.	52	22.0	108	45.8	51	1.6	20	8.5	5	2.1	2.23	.96
3. Opportunities in research are more restricted for women than for men.	13	5.5	131	55.5	69	29.2	21	8.9	2	.8	2.44	.77
4. Opportunities in teaching are more restricted for women than for men.	11	4.7	127	54.3	69	29.5	22	9.4	5	2.1	2.50	.81
5. A man is more likely to succeed as a veterinarian than a woman.	23	9.7	91	38.2	55	23.1	60	25.2	9	3.8	2.75	1.06
6. Male veterinarians should earn more money than women veterinarians.	75	31.9	112	47.7	38	16.2	3	1.3	7	3.0	1.96	.90
7. Women in the veterinary medical profession are not accepted by the general public.	6	2.5	84	35.3	54	22.7	87	36.6	7	2.9	3.02	.97
8. I feel I will be taken seriously as a professional.	2	.8	--	--	15	6.3	159	66.8	62	26.1	4.17	.61

[a]Responses were coded on a scale from "1" = "strongly disagree" to "5" = "strongly agree".

Table 7

Gender Role Expectations as Professionals, by Sex

Item	Male			Female		
	N	M	SD	N	M	SD
1. Men veterinarians should earn more money than women veterinarians.	180	2.16	.89	54	1.26	.44
2. Male veterinarians are more dedicated to their profession than female veterinarians.	182	2.42	.95	53	1.53	.58
3. Opportunities in research are more restricted for women than for men.	183	2.38	.75	52	2.67	.79
4. Opportunities in teaching are more restricted for women than for men.	181	2.44	.77	52	2.73	.93
5. Opportunities in practice are more restricted for women than for men.	182	3.62	.91	54	3.13	1.03
6. A man is more likely to succeed as a veterinarian than a woman.	183	2.91	1.04	54	2.20	.94